

# Foreword

"The State of Recycling in South Carolina" annual report was published for the first time last year by the S.C. Department of Health and Environmental Control's (DHEC) Office of Solid Waste Reduction and Recycling.

The goal of the report was to offer a condensed overview of waste reduction and recycling activities in the state and provide a useful tool for solid waste directors, recycling coordinators, community leaders, educators and the public.

The goal was accomplished. The report was recognized as one of the state's 10 Most Notable Documents, but more importantly, based on feedback, it served many of you well.

Given that, this report again will offer:

- a statistical summary of recycling efforts in the state;
- an easy comparison of collection figures for the materials recycled;
- a pricing history for recycled commodities; and
- a review of market trends.

"The State of Recycling in South Carolina" was written, edited and designed by DHEC's Office of Solid Waste Reduction and Recycling, a non-regulatory section of the department, and the S.C. Department of Commerce's Recycling Market Development Advisory Council.

If you are seeking more detailed information than what is discussed in this publication, please refer to the Fiscal Year 2002 S.C. Solid Waste Management Annual Report at [www.scdhec.net](http://www.scdhec.net).



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## About This Report...

"The State of Recycling in South Carolina" for Fiscal Year 2002 is published by the S.C. Department of Health and Environmental Control's (DHEC) Office of Solid Waste Reduction and Recycling.

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**Statistical Information** is provided by Celeste Duckett with DHEC's Solid Waste Planning and Compliance Section and the Fiscal Year 2002 S.C. Solid Waste Management Annual Report.

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## DHEC's Office of Solid Waste Reduction and Recycling

The S.C. Solid Waste Policy and Management Act of 1991 (Act) created DHEC's Office of Solid Waste Reduction and Recycling (Office). The Office provides technical assistance, grant funding and educational programs to local governments, schools, colleges and universities, and the public. The Office, in accordance with the Act, has no regulatory, compliance or enforcement role.

Major education projects for the Office include:

- **"Action for a cleaner tomorrow: A South Carolina Environmental Curriculum Supplement"** – "Action" is a national award-winning kindergarten through 12th grade activity-based interdisciplinary curriculum supplement that can serve as a starting place for introducing basic environmental education in the classroom.
- **The Recycle Guys Public Awareness Campaign** – "R-E-C-Y-C-L-E... it begins with you and me" is the opening line of the Office's national award-winning public service announcements (PSAs). These animated 15- and 30-second television PSAs, first broadcast in 1997, feature the "Recycle Guys" who began their career as the Office's logo in 1992. In addition to getting the word out about recycling, the campaign has grown to include PSAs on air, water and energy. The campaign has been adopted by nine states including North Carolina, Arizona and Pennsylvania as well as the City of Denver.
- **The Recycle Guys Awards Program** – Each year, the Office honors the top recycling programs, projects and people in South Carolina for outstanding and innovative achievements in recycling and waste reduction.

For more information about these and other programs offered by the Office, visit [www.scdhec.net/recycle](http://www.scdhec.net/recycle) or call **1-800-768-7348**.



# South Carolina Recycling Statistics\*

**JULY 1, 2001 – JUNE 30, 2002**

S.C. Population ..... 4,063,011

Number of Counties in South Carolina ..... 46

## MUNICIPAL SOLID WASTE (MSW) MANAGEMENT

Recycled ..... 1,262,331 tons

Disposed in Landfills ..... 2,921,378 tons

Incinerated ..... 208,626 tons

**Total ..... 4,392,335 tons**

## MSW RECYCLED

COMMODITY	AMOUNT COLLECTED
-----------	------------------

Glass .....	9,848 tons
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Metal .....	333,073 tons
-------------	--------------

Paper .....	438,804 tons
-------------	--------------

Plastic .....	25,588 tons
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Banned Items <sup>1</sup> .....	344,915 tons
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Miscellaneous Items <sup>2</sup> .....	110,103 tons
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**Total ..... 1,262,331 tons**

1. Banned items include the following: lead-acid batteries, waste tires, white goods, yard waste and land-clearing debris. While used oil also is a banned item, it is not considered MSW and as such used oil recycling is measured separately.

2. Miscellaneous items include: antifreeze, consumer electronics, fluorescent bulbs, food waste (post-consumer only), household hazardous materials, latex paint, mattresses, used oil filters and bottles, wood packaging, other wood (such as furniture and cabinets) and other non-packaging products and textiles.

## South Carolina's MSW Recycling and Waste Reduction Rates

Recycling Rate .....	<b>28.7 percent</b>
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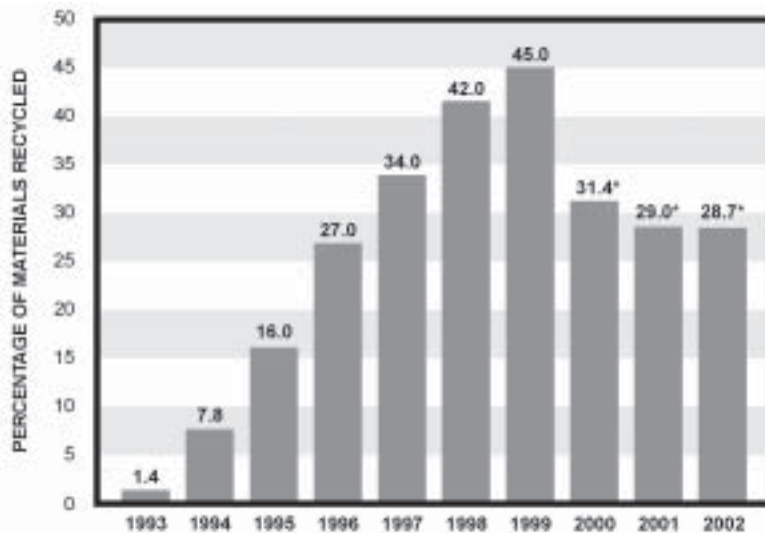
Waste Generation Rate .....	<b>4.2 pounds per person per day</b>
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\*SOURCE: The 2002 S.C. Solid Waste Management Annual Report



### CHART 1: South Carolina's Recycling Rate

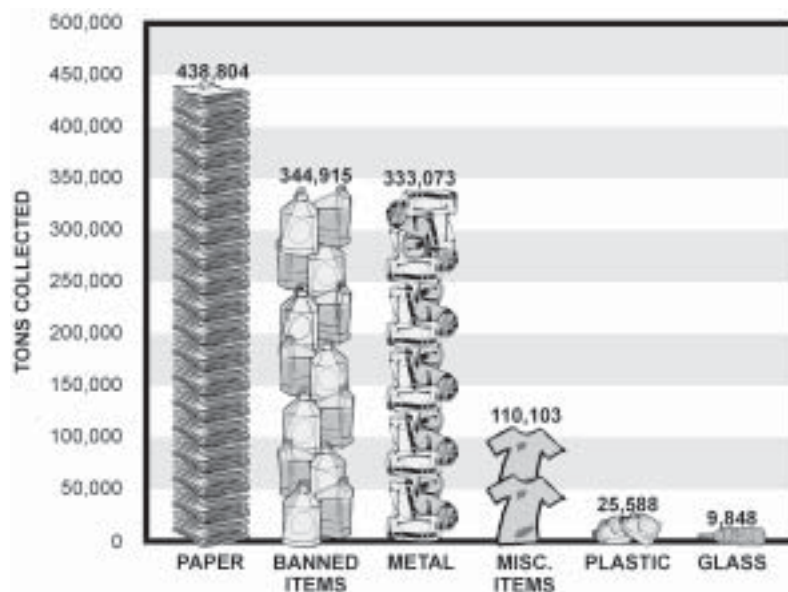
FISCAL YEARS 1993 - 2002



\* **NOTE:** Beginning with Fiscal Year 2000, the S.C. Department of Health and Environmental Control adopted the U.S. Environmental Protection Agency's formula for measuring its recycling rate. This new formula includes only municipal solid waste (MSW) and not the total waste stream that had been included in previous years.

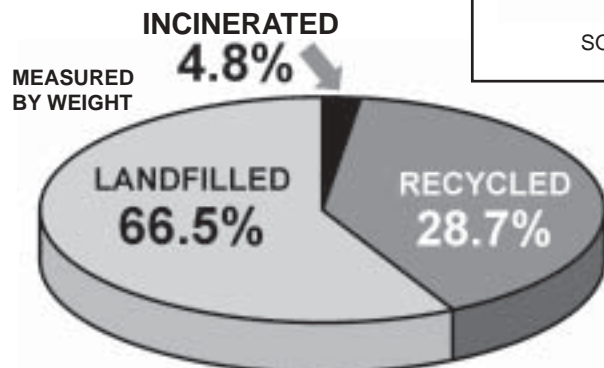
SOURCE: The 2002 S.C. Solid Waste Management Annual Report

### CHART 2: Recyclables Collected in S.C.



SOURCE: The 2002 S.C. Solid Waste Management Annual Report

### CHART 3: Where does solid waste go in South Carolina?



SOURCE: The 2002 S.C. Solid Waste Management Annual Report



# Executive Summary

Since the passage of the S.C. Solid Waste Policy and Management Act of 1991 (Act), recycling has become a South Carolina success story.

The Act – the first comprehensive law regarding solid waste management in South Carolina – also was the first chapter in the story. The Act did many things. The Act set recycling and waste reduction goals. The Act required local governments to keep track of waste generated and recycled and to report annually to the S.C. Department of Health and Environmental Control (DHEC). The Act created the Recycling Market Development Advisory Council. And the Act also created DHEC's Office of Solid Waste Reduction and Recycling (Office).

The Office, which is set up in a non-regulatory role, is designed to provide technical assistance, educational programs and grant funding to local governments, public schools, colleges and universities.

It is the local programs that have developed, implemented and promoted recycling and waste reduction. It is the local programs that have made recycling work.

The task is becoming more difficult. More people are moving to South Carolina and the state's overall population is growing. More waste is being generated. Despite this growth in population and waste generation, many solid waste professionals believe that the public's interest in recycling and recycling programs have leveled off not only in South Carolina but throughout the nation. Managing waste is an on-going proposition, not one that can be checked off as being handled by our community leaders so that they can move on to the next crisis or issue. Proper waste management that incorporates reducing waste whenever possible as well as reusing and recycling is a critical factor in conserving natural resources and maintaining the quality of life experienced in South Carolina.

## Municipal Solid Waste Defined

The state measures many different kinds of waste, but the recycling rate is measured only from the total amount of municipal solid waste (MSW). MSW is the combined residential, commercial, institutional/non-profit and industrial packaging/administrative waste generated. This includes paper, cans, bottles, food scraps, yard waste, packaging and other items. What it does not include is industrial pre-consumer process waste like scraps and by-products from the manufacturing process, agricultural waste, mining waste and sewage sludge as well as hazardous, infectious and radioactive waste. See page 16 for information on the difference between industrial packaging and pre-consumer waste.

## Reporting

The Act requires that county governments report the amount of MSW recycled to DHEC. The counties began reporting in Fiscal Year (FY) 1993. DHEC also receives reports from one MSW incinerator, 18 MSW landfills and several solid waste transfer stations.



## South Carolina celebrates America Recycles Day

America Recycles Day (ARD) is a national celebration set annually on November 15 to remind us that recycling is working and the important role each of us plays in keeping it working.

The S.C. Department of Health and Environmental Control's (DHEC) Office of Solid Waste Reduction and Recycling (Office) serves as the state contact with the national ARD board. In that role, the Office has developed a statewide steering committee of partners to develop programs to promote ARD in the state.

South Carolina has participated in every ARD since its inception in 1997, becoming a national leader in program development, partnerships, promotional contests and education.

To learn more about ARD in South Carolina, please visit [www.scdhec.net/recycle](http://www.scdhec.net/recycle) and click on America Recycles Day.



## South Carolina's Recycling and Waste Reduction Goals

The Act originally set a recycling goal of 25 percent and a goal of reducing by 30 percent the waste disposed at MSW landfills and incinerators. Both rates were calculated by weight. Both were measured from the total amount of waste generated. Both were measured from a baseline of Fiscal Year (FY) 1993 and were to be met by FY 1997.

In October 2000, the Act was amended with a goal of recycling 35 percent of the MSW stream and reducing MSW generation to 3.5 pounds per person per day by 2005.

The amount of MSW generated in FY 2002 was almost 4.4 million tons. Of that, 2.9 million tons were disposed in landfills, about 209,000 tons were incinerated and the remaining 1.2 million tons, or 28.7 percent, were recycled. The rate reflects a slight drop from the previous year and six points short of the 35 percent recycling goal. In FY 2001, the state's recycling rate was 28.96 percent.

South Carolinians generated 4.2 pounds per person per day in FY 2002, the same rate as FY 2001. Although no decrease in the waste reduction rate occurred in the past fiscal year, it is still almost one pound more than the waste reduction goal of 3.5 pounds per person per day.

Overall, 10 counties met the recycling goal and 23 counties achieved the waste reduction goal. Only four counties met both goals.

While rates have not changed much over last year, both local governments and business/industry have faced difficulties in maintaining or expanding their recycling programs.

For local governments, funds appropriated from the Solid Waste Trust Funds that are, in part, distributed to communities in the form of recycling grants, have been reduced. With the current budget crisis, reduced financial support continues to be a concern. Many counties cite that their waste reduction and recycling performance is directly linked to funding. When grant funds are not available, two negative impacts may occur: 1) new programs or services cannot be added, and 2) if the trend of reduced funding continues, some existing programs or services may be reduced or discontinued.

Fewer business recycling efforts may be the result of any of the following factors, mainly related to slow economic times:

- several counties reported business closings and employee layoffs in the past year;
- decreased prices for some commodities; and
- reduced interest in reporting recycling figures to county representatives.

Overall, recycling is successful in South Carolina. But while much has been done, much more remains to be done to reach the state's recycling and waste reduction goals.

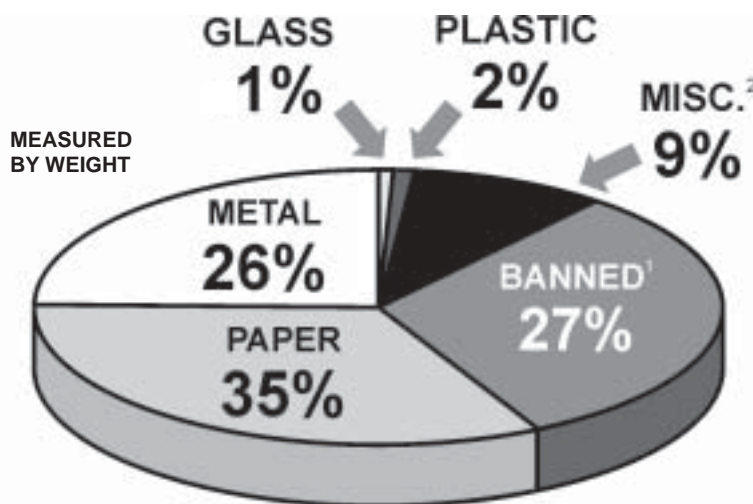
# Commodities

This chapter highlights the traditional commodities that form the basis of most recycling programs. Each section will define and/or describe the commodity, show the recycling rate (in tons) for the past 10 years and include charts showing the pricing history for the particular commodity or subgroups over the past six years.

Historical pricing information was provided by [www.wastenews.com](http://www.wastenews.com). These prices reflect the Southeastern market based in Atlanta. Unless otherwise noted, they are in dollars per ton and include delivery to the door.

All definitions come from the U.S. Environmental Protection Agency (U.S. EPA). The Recycling Market Development Advisory Council (RMDAC) has provided most of the information on each commodity including the Good News/Bad News sections.

**CHART 4: Recyclables Collected in South Carolina by Percentage**



1. Banned items include the following: lead-acid batteries, waste tires, appliances, yard waste and land-clearing debris. While used oil also is a banned item, it is not considered MSW and as such used oil recycling is measured separately.
2. Miscellaneous items include: antifreeze, consumer electronics, fluorescent bulbs, food waste (post-consumer only), household hazardous materials, latex paint, mattresses, used oil filters and bottles, wood packaging, other wood (such as furniture and cabinets) and other non-packaging products and textiles.

SOURCE: The 2002 S.C. Solid Waste Management Annual Report





# Glass

Thirty-five counties in South Carolina accept glass as part of their recycling program. The residential category accounts for 94 percent of all glass reported. In Fiscal Year (FY) 2002, 3,103 tons of clear, 2,253 tons of green, 2,161 tons of brown and 2,331 tons of mixed glass were collected for recycling. Despite an increase in the number of counties accepting glass in their programs, there was a decrease of almost 3,000 tons collected. This decrease is found almost exclusively in the residential category, but there is no single event that contributed to this decrease. Instead, it is the cumulative effect of five large counties that all had decreases in their glass collection figures.

Glass collected in this state for recycling is sent to regional processors in Atlanta and Raleigh. Glass market prices decreased across the board for all cullet categories – clear, brown and green.

**GOOD NEWS:** Recovery rates seem to be stable, if not improving, due primarily to color sorting equipment processors now used to handle mixed color cullet. Recovery rates also seem to benefit from the recent location of major breweries (Anheuser-Busch, Coors and Miller) in the Southeast. Glass processors continue – on a limited basis – to accept this “three-mix” material.

“The markets continue to look good for recycled glass cullet because of the color separation technology used by glass processors that provides local governments and others a market for mixed color glass,” said Hazel Mobley with Fibres International. “In addition, there continues to be a demand for a clean, consistent color-separated cullet.”

**BAD NEWS:** Markets for green glass in this region continue to be weak with no green bottle manufacturer nearby. Limited green cullet can be mixed to make brown bottles but this is dependent on a consistent batching process. Some communities are paying processors to take green glass and others have dropped green glass collection as a result.

SOURCES: The 2002 S.C. Solid Waste Management Annual Report\* and [www.wastenews.com](http://www.wastenews.com)\*\*

**FIGURE 1: GLASS COLLECTION FIGURES\***

All three colors are combined for total amount in tons.

FY 1993 .....	3,881 tons
FY 1994 .....	8,789 tons
FY 1995 .....	50,117 tons
FY 1996 .....	30,261 tons
FY 1997 .....	37,837 tons
FY 1998 .....	15,454 tons
FY 1999 .....	14,938 tons
FY 2000 .....	9,629 tons
FY 2001 .....	12,825 tons
FY 2002 .....	9,848 tons

**FIGURE 2: GREEN GLASS PRICES\*\***

FY 1997 .....	\$14.27 per ton
FY 1998 .....	\$13.07 per ton
FY 1999 .....	\$12.30 per ton
FY 2000 .....	\$13.00 per ton
FY 2001 .....	\$12.60 per ton
FY 2002 .....	\$8.76 per ton

**FIGURE 3: CLEAR GLASS PRICES\*\***

FY 1997 .....	\$35.70 per ton
FY 1998 .....	\$34.80 per ton
FY 1999 .....	\$33.60 per ton
FY 2000 .....	\$35.00 per ton
FY 2001 .....	\$35.00 per ton
FY 2002 .....	\$32.15 per ton

**FIGURE 4: BROWN GLASS PRICES\*\***

FY 1997 .....	\$22.00 per ton
FY 1998 .....	\$20.00 per ton
FY 1999 .....	\$19.60 per ton
FY 2000 .....	\$22.00 per ton
FY 2001 .....	\$22.60 per ton
FY 2002 .....	\$20.38 per ton

## Definition

For recycling purposes, **GLASS** is defined as containers like bottles and jars for drinks, food, cosmetics and other products. When being recycled, container glass is generally separated into color categories for conversion into new containers, construction materials or fiberglass insulation.



# Metal

Scrap metal recycling, including ferrous (tin/steel) and non-ferrous (aluminum), resulted in 333,073 tons being collected. This total, however, reflected a decrease of about 63,000 tons from Fiscal Year (FY) 2001. While a specific reason for this decrease is difficult to determine, overall there was a decrease in the commercial category. One possibility is that one or more commercial companies who previously reported had not done so this year. In the residential category, 40 counties participated in some sort of scrap metal recycling program. Eight of those counties collected aluminum only. Despite the increase in the number of counties collecting scrap metal, local governments also saw a reduction in tons collected.

## Ferrous Metals

**GOOD NEWS:** Markets improved rapidly in early 2002 when the United States placed tariffs on foreign steel imports under section 201 of the Trade Act. The flow of steel from overseas came to a halt for certain grades and domestic steel mills reaped the benefits. Capacity shifted from foreign production to domestic production and the entire industry saw higher prices from scrap metal to finished goods. South Carolina's capacity to process its own post-consumer recyclables, such as automobiles and white goods, greatly increased in 2002. This was a result of Carolinas Recycling Group, LLC installing the largest ferrous shredder in the state at its Lyman facility.

**BAD NEWS:** This relief solved the short-term need for industry survival but did little to address the long-term issue of global overcapacity in the steel sector.

"Strong prices for scrap metal are almost entirely driven by supply," said Steve Siegel, vice-president of Ferrous Scales of the Carolinas Recycling Group. "The export of scrap products to growing economies overseas has left fewer tons available to domestic consumers. We need to see real demand from our own economy in order for steel consumers to sustain current price levels for the remainder of the year."

## Non-Ferrous

**GOOD NEWS:** U.S. primary production made modest gains after historic lows in December 2001. The extended outlook appears promising for aluminum as several new aluminum smelters are in the design stages worldwide.

**BAD NEWS:** Accounting for 28 percent of global production in 1990, the United States was down to 15 percent in 2002. Meanwhile aluminum production is

**FIGURE 5: METALS COLLECTION FIGURES\***

All types of metal are combined in tons.

FY 1993 .....	6,174 tons
FY 1994 .....	74,118 tons
FY 1995 .....	81,588 tons
FY 1996 .....	652,724 tons
FY 1997 .....	581,227 tons
FY 1998 .....	402,607 tons
FY 1999 .....	463,111 tons
FY 2000 .....	434,411 tons
FY 2001 .....	396,566 tons
FY 2002 .....	333,073 tons

**FIGURE 6: ALUMINUM CAN PRICES\*\***

FY 1997 .....	\$0.43 per pound
FY 1998 .....	\$0.36 per pound
FY 1999 .....	\$0.34 per pound
FY 2000 .....	\$0.39 per pound
FY 2001 .....	\$0.36 per pound
FY 2002 .....	\$0.33 per pound

**FIGURE 7: STEEL CAN PRICES\*\***

FY 1997 .....	\$41.46 per ton
FY 1998 .....	\$44.31 per ton
FY 1999 .....	\$25.88 per ton
FY 2000 .....	\$20.46 per ton
FY 2001 .....	\$24.26 per ton
FY 2002 .....	\$21.76 per ton

## Definitions

**FERROUS METALS** are magnetic metals derived from iron or steel; products made from ferrous metals include appliances, furniture, containers and packaging like steel drums and barrels. Recycled products include tin/steel cans, strapping and metals from appliances into new products.

**NON-FERROUS METALS** are non-magnetic metals such as aluminum, lead and copper. Products made, all or in part, from such metals include containers, packaging, furniture, appliances, electronics and aluminum foil.

increasing overseas – including in Iceland, China, Australia, Russia and South Africa – where more modern plants are being built with far more capacity.

"Some analysts believe the bottom has passed in the aluminum market with a weaker dollar, Asian demand growth and signs of a rebound in U.S. demand," said Scott Courtney of ALCOA-Mt. Holly. "The demand for aluminum is increasing slowly and there is still a substantial surplus of inventories in the warehouses of the London Metal Exchange. Under those circumstances, it is quite unlikely that increased production of aluminum is needed right now."

SOURCES: The 2002 S.C. Solid Waste Management Annual Report\* and [www.wastenews.com](http://www.wastenews.com)\*\*

# Paper

There was a decrease in the amount of paper collected for recycling, dropping to 438,804 tons – roughly three percent less than last year. Despite the decrease, there were significant increases in the residential and commercial category. Of the 39 counties that included cardboard in their recycling program, 12 offered cardboard collection only.

Paper encompasses many categories including corrugated cardboard (brown box with the waffle layer), magazines (glossy, bound paper), sorted office paper (all colors – no plastic windows) and newsprint No. 8 (newspaper and inserts). See Figures 9-13 for pricing history.

**GOOD NEWS:** The most surprising grade for Fiscal Year (FY) 2002 has been mixed paper with a very steady market demand. As more mills look for fiber substitution, mixed paper should continue to stay high in demand in both domestic and export markets. The Asian market continues to be the leader in the export movement and will continue to depend on the U.S. market as its major supply chain.

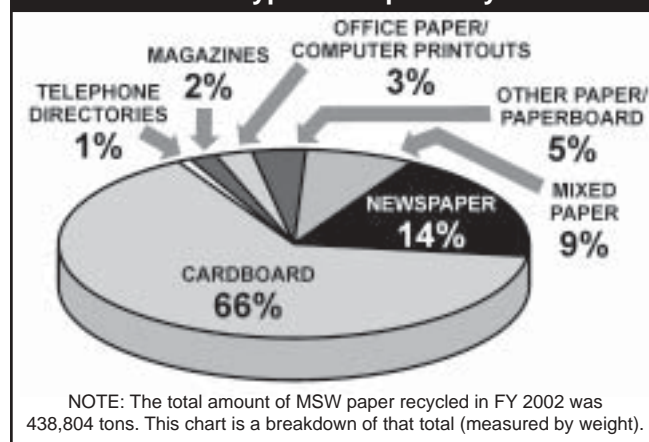
**BAD NEWS:** Newsprint will continue to see low prices in FY 2003 because producers are unable to pass along price increases to their finished product.

The paper market experienced fluctuating prices throughout the year due to large export demand and an early increase in consumption by domestic mills.

"China will continue to look to the United States to fill its growth needs in all grades of paper and watch for India to emerge as a player in the U.S. market place as well," said Ronnie Grant of Sonoco Products Paper Division.

SOURCES: The 2002 S.C. Solid Waste Management Annual Report\* and [www.wastenews.com](http://www.wastenews.com)\*\*

**CHART 5: Types of Paper Recycled\***



**FIGURE 8: PAPER COLLECTION FIGURES\***

FY 1993	19,207 tons
FY 1994	60,053 tons
FY 1995	125,487 tons
FY 1996	171,709 tons
FY 1997	482,449 tons
FY 1998	1,808,644 tons
FY 1999	1,762,259 tons
FY 2000	481,998 tons
FY 2001	452,991 tons
FY 2002	438,804 tons

**FIGURE 9: COMPUTER PAPER PRICES\*\***

FY 1998	\$145 per ton
FY 1999	\$105 per ton
FY 2000	\$114 per ton
FY 2001	\$105 per ton
FY 2002	Information no longer available

**FIGURE 10: CARDBOARD PRICES\*\***

FY 1997	\$46 per ton
FY 1998	\$39 per ton
FY 1999	\$33 per ton
FY 2000	\$38 per ton
FY 2001	\$27 per ton
FY 2002	\$20 per ton

**FIGURE 11: MAGAZINE PRICES\*\***

FY 1997	\$2.65 per ton
FY 1998	\$3.70 per ton
FY 1999	\$1.00 per ton
FY 2000	\$4.73 per ton
FY 2001	\$5.03 per ton
FY 2002	\$5.69 per ton

**FIGURE 12: SORTED OFFICE PAPER PRICES\*\***

FY 1997	\$22 per ton
FY 1998	\$26.50 per ton
FY 1999	\$31.50 per ton
FY 2000	\$60.60 per ton
FY 2001	\$40.90 per ton
FY 2002	\$22.50 per ton



**FIGURE 13: NEWS NO. 8 PRICES\*\***

FY 1998	\$25 per ton
FY 1999	\$33 per ton
FY 2000	\$69 per ton
FY 2001	\$61 per ton
FY 2002	\$41 per ton

## Definition

In the recycling business, **PAPER** refers to products and materials, including newspapers, magazines, office papers, corrugated containers, bags and some paperboard packaging that can be recycled into new paper products.

# Plastic

While there was an increase in plastics collected, it all came from one category – industrial packaging – mostly from a single company's recycling efforts. Thirty-seven of 46 counties included PET  and HDPE  plastics in their recycling programs. Overall, 25,588 tons of plastic were recycled, an increase of 74 percent over Fiscal Year (FY) 2001. Note that the increase is from only one category and does not reflect the decrease in plastics in the remaining categories.

Based on the most recent numbers as reported by the American Plastics Council (APC), plastic bottle recycling increased by 80 million pounds nationally in 2001. Markets for post-consumer flake and resins are primarily in fiber, sheeting, strapping, bottles, packaging, and pipe and lumber composite products. PET and HDPE continued to lead plastic bottle recovery programs. According to APC, 53 percent of PET bottles were recovered for recycling while 47 percent of HDPE bottles were recovered.

**GOOD NEWS:** Bottle-to-bottle recycling growth has continued to increase in volume for PET as another new application for recycling. In addition, the HDPE recycling rate increased primarily in pigmented bottles. HDPE markets saw strong growth in 2002 due to decreased virgin capacity, tightening the overall market in both virgin and post-consumer.

In fact, growth beyond the current business slow down is anticipated as new recycled product applications come on-line and recycled content in bottles expands.

**BAD NEWS:** Increasing collection of PET and HDPE bottles remains the primary concern to support this growth.

"As demand for recycled content containers grows, increasing collection of PET and HDPE bottles remains a primary concern," said Phil Ammons of Wellman, Inc. "Consumer education and recycling promotions will be needed to further increase collection rates of single-serve containers consumed away from the home and to increase public interest in recycling."

SOURCES: The 2002 S.C. Solid Waste Management Annual Report\* and [www.wastenews.com](http://www.wastenews.com)\*\*

**FIGURE 14: PLASTICS COLLECTION FIGURES\***

FY 1993 .....	4,673 tons
FY 1994 .....	2,916 tons
FY 1995 .....	12,812 tons
FY 1996 .....	29,187 tons
FY 1997 .....	89,120 tons
FY 1998 .....	38,572 tons
FY 1999 .....	9,454 tons
FY 2000 .....	46,859 tons
FY 2001 .....	14,680 tons
FY 2002 .....	25,588 tons

**FIGURE 15: PET PRICES\*\***

FY 1997 .....	\$0.64 per pound
FY 1998 .....	\$0.10 per pound
FY 1999 .....	\$0.05 per pound
FY 2000 .....	\$0.12 per pound
FY 2001 .....	\$0.12 per pound
FY 2002 .....	\$0.08 per pound

**FIGURE 16: PIGMENTED HDPE PRICES\*\***

FY 1997 .....	\$0.13 per pound
FY 1998 .....	\$0.07 per pound
FY 1999 .....	\$0.06 per pound
FY 2000 .....	\$0.11 per pound
FY 2001 .....	\$0.10 per pound
FY 2002 .....	\$0.06 per pound

**FIGURE 17: NATURAL HDPE PRICES\*\***

FY 1997 .....	\$0.21 per pound
FY 1998 .....	\$0.11 per pound
FY 1999 .....	\$0.10 per pound
FY 2000 .....	\$0.19 per pound
FY 2001 .....	\$0.17 per pound
FY 2002 .....	\$0.13 per pound

## PET and HDPE Plastics



Examples of PET include soft drink, shampoo and ketchup bottles (left).

Examples of HDPE include milk jugs, detergent and household cleaner bottles (right).



## Definition

**PLASTICS** refers to plastic containers and packaging made from various resins but does not include the plastic in automobiles and construction products (PVC piping).



## Banned Items

There are a number of items in the municipal solid waste stream that have been banned from disposal in South Carolina's landfills, including lead-acid batteries, tires, large appliances (also known as white goods) yard waste and land-clearing debris. While used oil also is a banned item, it is not considered MSW and as such used oil recycling is measured separately. In 2002, there was an increase of 74,000 tons of these materials recovered for recycling, bringing the total to 344,915 tons. Most of this increase can be attributed to Charleston County accepting natural wood waste in its recycling program.

While these items are not usually collected in curbside programs, most can be taken to a county's drop-off center for recycling or taken back to the retailer when new products are purchased. Figure 18 shows a breakdown of the tonnages recycled for each commodity over the past two years.

With the exception of yard waste and land-clearing debris, there are Advance Recycling Fees (ARFs) associated with these banned materials. When consumers buy oil, new tires, refrigerators (or other large appliances) and car batteries, they pay a small fee that is set aside in a Solid Waste Trust Fund designed to help pay for recycling programs throughout the state. These fees have helped develop the curbside and drop-off collections sites located throughout the state as well as help defray the cost of processing these materials and fund on-going education programs.

Proposed legislation to develop a program for recycling used electronics, such as computers, televisions, monitors and other outdated electronic equipment, also proposes an ARF to help develop a recycling infrastructure. But there currently are no plans to ban electronics from municipal solid waste landfills.

**FIGURE 18: BANNED ITEMS COLLECTED**

BANNED ITEM	FY 2002	FY 2001
Lead-Acid Batteries	10,512 tons	14,904 tons
Waste Tires	43,836 tons	39,256 tons
White Goods	39,745 tons	43,366 tons
Yard Waste & Land-Clearing Debris	250,822 tons	172,969 tons
<b>TOTAL</b>	<b>344,915 tons</b>	<b>270,495 tons</b>

SOURCE: The 2002 S.C. Solid Waste Management Annual Report

## Asphalt Rubber Technology Service

Rubber is hitting the road in new ways in South Carolina that may have worldwide implications – thanks to a unique research partnership with Clemson University.

The Asphalt Rubber Technology Service (ARTS) was created with the mission to design, test and promote the use of scrap tires in rubberized asphalt and other civil engineering applications.

ARTS, which is a collaborative effort of the S.C. Department of Health and Environmental Control (DHEC), Clemson University and the City of Clemson began its work in July 2000. It promotes practical uses for scrap tire rubber in hot-mix asphalt and other applications including embankments, retaining walls and fill material.

The focus of ARTS includes research, training, education and information services. For example, ARTS provides grant funding for several test projects to be constructed in South Carolina each year. These projects are used as demonstrations for research, testing and training.

Projects completed in Fiscal Year 2002 are summarized below.

- **PICKENS COUNTY SCHOOL DISTRICT:** Rubberized asphalt projects included bus ramps, parking areas and activity areas at various schools. In total, the various projects amounted to about 2,600 tons of rubberized asphalt using about 3,100 scrap tires.
- **ANDERSON COUNTY:** This two-phase project involved about 17,095 lane feet of rubber-modified asphalt surface course on Michelin Boulevard near the Anderson County Airport and the new Michelin Tire Facility. The first phase of the project included roughly 10,500 tons of rubberized mix in four sections of roadway. The second phase involved 4,000 tons of rubber-modified asphalt. A total of about 17,400 scrap tires were used.
- **SOUTH CAROLINA BOTANICAL GARDEN:** Asphalt rubber pavements were installed on several miles of one- and two-lane roads within the South Carolina Botanical Garden, consisting of 2,300 tons of rubberized asphalt that used about 2,800 scrap tires.
- **CLEMSON OUTDOOR LABORATORY:** This project involved paving the access road for the Clemson Outdoor Laboratory with about 600 tons of rubberized mix that contained nearly 800 scrap tires. This project was an addition to the South Carolina Botanical Garden project.
- **ARTS RESEARCH FACILITY DEMONSTRATION AREAS:** Various applications for crumb rubber were used in the construction of the building that houses the ARTS research laboratory and office space. These applications include a retaining wall, septic tank and tile field, landscape bedding and asphalt rubber pavement for the parking lot and driveways. The rubberized pavement included both the intermediate and surface courses. Roughly 250 scrap tires were used as part of this project.

For more information about the Asphalt Rubber Technology Service, its past or current projects and on-going research, call (864) 656-6186 or visit [www.ces.clemson.edu/arts](http://www.ces.clemson.edu/arts).



## Tire Recycling in South Carolina

Recycling is one of the nation's top environmental success stories of the past decade. Scrap tire management has its own chapter in that story – particularly with increased recycling and the development of various markets that provide value-added applications for old tires.

Since 1993, more than 7 million waste tires have been removed from illegal stockpiles throughout South Carolina and properly disposed, reused or recycled. Additionally, in calendar year 2002 nearly 7 million tires were collected for recycling by tire processors in the state.

Markets for processed tires remain strong with drain field and septic tank applications and tire-derived fuel as the leading categories (see Chart 6).

There are several companies located in the state that process tires for a variety of end uses, increasing the demand for more tires. Crumb rubber manufacturing offers a higher-value product. Although a small sector of the market, crumb rubber usage has shown significant growth over the past few years and looks like it will continue to grow.

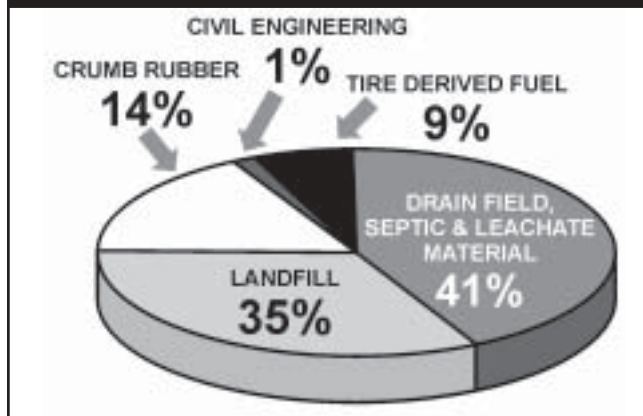
## Used Oil Recycling in South Carolina

A record amount of oil was recycled in calendar year 2001 by do-it-yourself oil changers (DIYers) in South Carolina, according to the most current figures compiled by DHEC's Office of Solid Waste Reduction and Recycling (Office).

DIYers recycled 1,147,500 gallons of used oil in 2001, the 11<sup>th</sup> consecutive year a record amount was collected and the third straight year that more than 1 million gallons were collected. Since the used oil recycling program began in 1990, DIYers have recycled more than 7.9 million gallons of used oil. Used motor oil is currently collected at more than 650 used oil collection sites throughout the state.

South Carolina continues to have one of the nation's best and most comprehensive used oil recycling programs targeted at DIYers. In addition to recycling used motor oil, many counties collect and recycle used oil filters and used oil bottles from DIYers.

**CHART 6: Where do tires go?**  
**SOUTH CAROLINA TIRE PROCESSING FOR 2002**



SOURCE: S.C. Recycling Market Development Advisory Council  
2002 Annual Report (for calendar year 2002)

The Office encourages counties to establish farmer oil collection tanks as well as oil/gasoline mixture tanks. Farmer oil collection tanks are designed to accept the larger quantities of oil that farmers generate. Since the program began in 1998, 13 farmer oil tanks have been set up in 11 counties. There are four oil/gasoline mixture tanks located in the state.

Introduced in January 2000, the Office continues to offer the Green Driver Project that targets students in high school driver education classes. The Project is based on classroom presentations that stress the environmental impact of driving and includes information on recycling used oil, filters and bottles, energy conservation, ground-level ozone prevention and other environmental tips. The centerpiece of the presentation is "DHEC1: Behind the Oil Change." A parody of "VH1: Behind the Music," the video chronicles the rise, fall and redemption of a teenager who was an environmental champion, but is caught dumping used oil in a storm drain.

The Project serves as a life-long lesson in environmentally responsible driving. Since the Project began, staff have made 240 classroom presentations to 10,622 students and others.

**NOTE:** Used oil is not considered municipal solid waste and as such used oil recycling is measured separately. Used oil recycling sites are required by law to be registered with the state.

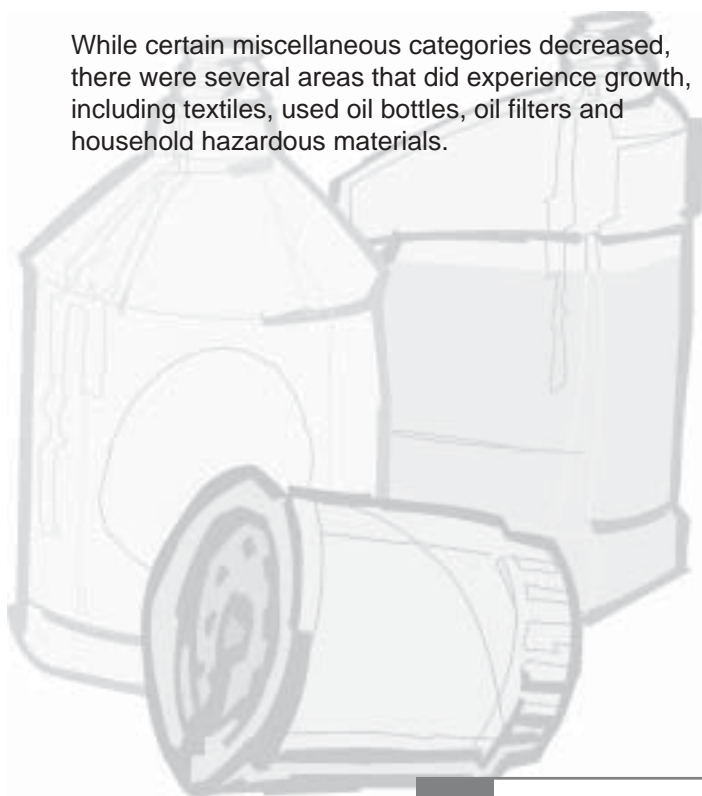
Collection figures were taken from reports compiled and provided by Santee Cooper and DHEC's Office of Solid Waste Compliance. Figures for calendar year 2002 were not available when this document was printed.

# Miscellaneous Items

Miscellaneous items are considered non-traditional recycling commodities. In some cases, there is a local market for a particular item or a county has identified a specific commodity to collect within the community.

Miscellaneous items include antifreeze, consumer electronics, fluorescent bulbs, food waste (post-consumer only), household hazardous materials, latex paint, mattresses, toner cartridges, used oil filters and bottles, wood packaging, other wood (such as furniture and cabinets) and other non-packaging products and textiles (Figure 19).

While certain miscellaneous categories decreased, there were several areas that did experience growth, including textiles, used oil bottles, oil filters and household hazardous materials.



**FIGURE 19:  
MISCELLANEOUS ITEMS COLLECTED**

MISC. ITEMS	FY 2002	FY 2001
Antifreeze	436 tons	833 tons
Consumer Electronics	212 tons	5,672 tons
Fluorescent Tubes	1,563 tons	9,842 tons
Food Waste (post-consumer only)	2,900 tons	2,642 tons
Household Hazardous Materials	2,062 tons	340 tons
Latex Paint	647 tons	74 tons
Mattresses	14 tons	26 tons
Textiles	50,851 tons	33,402 tons
Toner Cartridges	5 tons	0 tons
Used Oil Bottles (if not included in plastics #2)	104 tons	105 tons
Used Oil Filters (if not included in scrap metal)	636 tons	1,116 tons
Wood Packaging	43,258 tons	59,961 tons
Other Wood	3,418 tons	594 tons
<b>TOTAL</b>	<b>106,106 tons</b>	<b>114,607 tons</b>

SOURCES: The 2001 and 2002 S.C. Solid Waste Management Annual Report

## More to Know...

**FLUORESCENT TUBES:** Fluorescent lamp manufacturers have significantly reduced the amount of mercury in lamps even as they have increased their energy efficiency (SOURCE: "Pollution Prevention in South Carolina," Summer 1997).

**HOUSEHOLD HAZARDOUS MATERIALS:** The average American home has about 100 pounds of household hazardous materials (HHM) stored in the basement, garage or under the kitchen sink. Americans generate about 1.6 million tons of HHM every year, according to the U.S. EPA.

**TEXTILES:** According to the Council for Textile Recycling, 2.5 billion pounds of post-consumer textile product waste was removed from the solid waste stream in 2001.

# Industry Recycling in South Carolina

*Smart waste management is smart business.*

By implementing waste reduction, reuse and recycling programs, businesses and industry can reduce disposal costs and improve their bottom line. And just for good measure – conserve natural resources, save landfill space and help protect the environment.

Sound good? This should sound better. The Business Recycling Assistance Program (B-RAP) is a free, confidential and non-regulatory program designed to increase awareness among business as and industry of the importance waste reduction and recycling activities may have in protecting the environment as well as the economic benefits of reducing waste.

B-RAP is a partnership comprised of the S.C. Department of Commerce's Recycling Market Development Advisory Council, the S.C. Department of Health and Environmental Control's (DHEC) Center for Waste Minimization and Office of Solid Waste Reduction and Recycling, and the University of South Carolina's Industrial Ecology Program. Each B-RAP member offers unique services, but as a partnership provides a one-stop shop for businesses and industry.

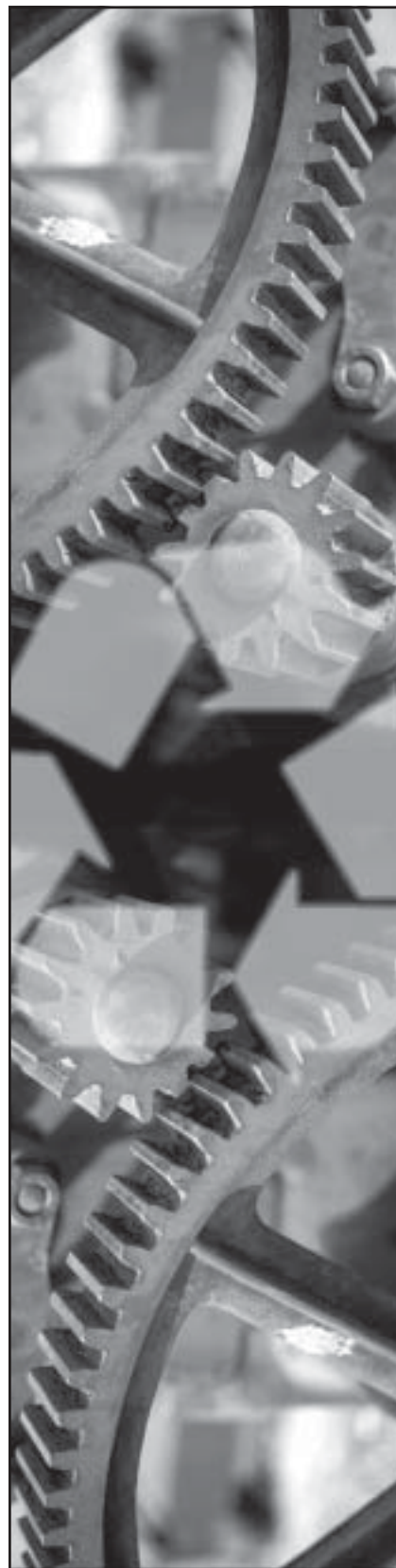
Once the bottom-line savings are presented, both from avoided waste disposal costs and potential revenue from marketing recyclable and by-products, many companies are willing to invest employee time and effort to develop a program. In some cases, companies can experience reductions ranging from 30 to 50 percent as a result of targeting just two or three high volume waste streams. Cardboard, paper and wood pallets are among the most prevalent waste streams identified by staff.

The emergence of environmental management systems and the ISO 14000 certifications have made many businesses review their waste disposal practices and look for reduction and recycling alternatives. County recycling coordinators, along with B-RAP staff, can help companies develop and implement programs that best meet their needs to reduce waste as well as take advantage of available markets for diverted materials.

A critical component of a successful program includes a good system of record keeping. By keeping track of what's generated, what's reduced, reused or recycled and finally what's disposed, a company can get a clear picture of what it is paying to bring materials into its facility and what the costs are at the end-of-life. If materials are not ending up as products that can be sold, the remaining balance is waste that the company pays to have disposed. In other words, it's money out the door.

And by sharing the data collected on waste disposal and recycling habits, businesses can assist their communities in planning for future waste disposal needs. Each year counties report to DHEC how much waste is generated, recycled and disposed. Most data currently collected comes from residential collections, but having knowledge of commercial and

*Continued on the following page*



industrial waste activities is helpful. While providing this information is purely voluntary, it provides an important tool for county decision-makers for future needs.

By working together, businesses, industry, local governments and B-RAP can help save natural – and financial resources.

**FIGURE 20:  
INDUSTRIAL PRE-CONSUMER AND PACKAGING/  
ADMINISTRATIVE MATERIAL RECYCLED**

COMMODITY	FY 2002	FY 2001
Glass	2,511 tons	1,099 tons
Metal	429,623 tons	296,532 tons
Paper	2,060,809 tons	331,465 tons
Plastic	48,508 tons	45,531 tons
Banned Items <sup>1</sup>	12,550 tons	39,488 tons
Misc. Items <sup>2</sup>	100,470 tons	175,359 tons

1. Banned items include the following: lead-acid batteries, waste tires, appliances, yard waste and land-clearing debris. While used oil also is a banned item, it is not considered MSW and as such used oil recycling is measured separately.
2. Miscellaneous items include: antifreeze, consumer electronics, fluorescent bulbs, food waste (post-consumer only), household hazardous materials, latex paint, mattresses, used oil filters and bottles, wood packaging, other wood (such as furniture and cabinets) and other non-packaging products and textiles.

SOURCE: The 2001 and 2002 S.C. Solid Waste Management Annual Report

## Definitions

**INDUSTRIAL PRE-CONSUMER WASTE** is defined as any material used in the manufacturing process or material/by-product resulting from processing that does not reach the intended end user of the product being manufactured. **EXAMPLE:** When paper mills place the paper by-product back into the paper manufacturing process instead of discarding, the paper put back into the process is considered a pre-consumer waste, thereby excluding it from the equation used to measure recycling and waste reduction.

**INDUSTRIAL PACKAGING/ADMINISTRATIVE WASTE** is defined as materials that do not enter the manufacturing process. **EXAMPLE:** A textile company uses threads to make cloth. The thread comes on cardboard cones or spools. Once all of the thread on a spool is used, the spool is recycled. The spool is considered industrial packaging/administrative waste and as such is part of the municipal solid waste stream and can be counted as part of the company's recycling totals.

## Recycling Market Development Advisory Council

The Recycling Market Development Advisory Council (RMDAC), established by the S.C. Solid Waste Policy and Management Act of 1991 and appointed by the Governor, formulates programs and policies to encourage markets for new and existing recyclable materials. RMDAC is managed within the S.C. Department of Commerce to coordinate the activities of the Council and provide technical and economic development assistance to recycling businesses and industry.

RMDAC provides the following services:

- **Business Development Assistance for Recycling Companies**
  - ▶ Market data
  - ▶ Financial resources and business assistance links
  - ▶ Business planning
- **Market Development Initiatives**
  - ▶ Demonstration and pilot projects
  - ▶ Technology development assistance
  - ▶ Market analysis
- **Industrial Waste Recycling Resources**
  - ▶ Technical assistance for waste recycling alternatives
  - ▶ On-site recycling program assessment
  - ▶ S.C. WasteXchange
- **Recycling Market Development Partners**
  - ▶ Business Recycling Assistance Program
  - ▶ Carolina Recycling Association

For more information about RMDAC, visit its Web site at [www.callsouthcarolina.com](http://www.callsouthcarolina.com) or call (803) 737-0239 for assistance.



We perform. You win.



# Business Recycling Assistance Program helps South Carolina companies improve bottom line

During its first year, the Business Recycling Assistance Program (B-RAP) helped 70 South Carolina businesses reduce the amount of waste generated, recycle more materials, conserve energy and natural resources and lower solid waste disposal costs.

"During these tight economic times, we've shown businesses of all sizes how they can achieve real savings by reducing the amount of waste they generate and pay to dispose," said Karen Owens, B-RAP project manager. "Many companies recognize that waste disposal costs are rising, but often consider it as the cost of doing business. Removing one or two high-volume items like cardboard or paper from the waste stream for recycling can have an immediate impact on their bottom line. In some cases, we've seen companies experience a 30 to 50 percent reduction in waste in a very short time."

According to Owens, the technical assistance provided during the year has covered a broad spectrum. "We've consulted with companies that want to start basic recycling programs to industries with comprehensive environmental management systems in place looking to market by-products that can be reused in other manufacturing applications. The continued growth in businesses seeking ISO 14001 certification also has generated calls for help."

Since its inception in late 2001, the partnership has consulted with businesses, participated in several recycling workshops and conferences, developed a quarterly newsletter that's distributed to 3,500 decision-makers, developed and published a how-to guide for businesses and made presentations at several Chamber and civic meetings. And in February, as part of the Recycle Guys Awards Program, B-RAP recognized two businesses for their waste reduction and recycling efforts – Nucor Steel in Darlington and Lexington Medical Center.

One of B-RAP's first-year success stories was helping Anderson Hardwood Floors in Clinton find an outlet for its scrap flooring. "We were able to donate nearly 20,000 square feet of usable flooring to Habitat for Humanity to use in future building projects," said Johnny Gates, chief operating officer at Anderson. "We are committed to protecting the environment and are pleased our donation will benefit Habitat's on-going community building projects."

Among the services provided to businesses are on-site waste audits, assistance locating markets for recyclables and a variety of technical assistance fact sheets and publications including "It's Everybody's Business: A How-To-Guide for Implementing Waste Reduction Programs." The partnership also sponsors the S.C. WasteXchange, a free on-line material exchange service, and "The Index of Waste Minimization Resources" annual directory. B-RAP also promotes the U.S. Environmental Protection Agency's WasteWise program, a voluntary initiative with nearly 1,300 businesses and organizations committed to reducing waste.

*Continued on the following page*



At least 40 percent of the total waste generated in South Carolina comes from the commercial and industrial sectors. "In 2003, we hope to help even more businesses as well as assist state agencies and other public-supported institutions to save natural resources, landfill space and money," Owens said.

As part of its efforts to help more businesses, the partnership has recently expanded to include the University of South Carolina's Industrial Ecology Program. "It's an added benefit to have their expertise in securing hard-to-market industrial by-products and helps us provide a stronger one-stop-shop approach for waste management needs," Owens added.

To learn more about B-RAP and its services, call **1-800-768-7348** or visit its Web site at **[www.scdhec.net/brap](http://www.scdhec.net/brap)**.

**DID YOU KNOW?** There are more than 250 recycling businesses located in South Carolina employing nearly 10,000 people. Although they vary in size, materials used and production methods, these companies have made significant investments to use recovered materials from recycling collections to produce new products. Whether small recycling companies that employ just a few people to Fortune 500 companies like Sonoco and Nucor, the bottom line success relies in part on both residential and business collections of recyclables such as cardboard, metal, plastic bottles, newspaper and other materials. In addition to a reliable supply of materials, these companies also depend on consumer purchases of recycled content products.

## B-RAP Success Stories

*Below are samplings of businesses that have improved their bottom line as well as lessened their environmental impacts as a result of working with the Business Recycling Assistance Program.*

**BENETEAU USA**, a boat manufacturer located in Mullins, reports savings of \$2,800 a month in solid waste disposal costs. According to Beneteau's Environmental, Health and Safety Officer Connie Post, the company has realized these savings by baling and selling its cardboard, crushing its 55-gallon steel drums and selling them to a scrap metal yard and contracting with a wood pallet recycler. To reduce the amount of acetone the plant disposed each month, Post purchased a machine to recycle its used acetone, thus leaving a smaller amount of sludge to be discarded.

**EMITEC**, a manufacturer of catalytic converters for the automobile industry located in Fountain Inn, has been involved in reducing air pollution by the very nature of its business. Johann Riescher contacted the Business Recycling Assistance Program to look for alternatives to disposing the company's wood pallets. Upon receiving the contact information about pallet recyclers in the area, Riescher was able to set up a plan. Within three months of implementing pallet recycling, he generated \$5,000 from a waste stream that had been disposed in a landfill.



## Recycling, buy recycled totals for state agencies, colleges announced

State agencies as well as colleges and universities, recycled nearly 15,000 tons of material in Fiscal Year (FY) 2002, according to reports provided to the S.C. Department of Health and Environmental Control.

In addition, state agencies reported that about 10 percent of their total purchases were for recycled content products while colleges and universities reported about 7 percent.

The S.C. Solid Waste Policy and Management Act of 1991 was amended in October 2000 to require state agencies, colleges and universities to report amounts of materials being recycled and purchases of recycled content products as well as identify waste reduction practices. This report reflects the first full FY data was collected.

A one-page reporting form was provided to 73 state agencies and 30 colleges and universities. Sixty-one state agencies and 28 colleges and universities reported.

The complete report is available at **[www.scdhec.net](http://www.scdhec.net)**.

# South Carolina's Waste Reduction, Recycling Time Line for FYs 1991-2002

The S.C. Department of Health and Environmental Control's (DHEC) Office of Solid Waste Reduction and Recycling (Office) provides educational programs, technical assistance and grant funding to local governments, schools, colleges and universities, and the public regarding solid waste issues. The following is a time line of important events, initiatives and projects coordinated through the Office from Fiscal Years (FYs) 1991-2002:

## FISCAL YEAR 1991

- The S.C. Solid Waste Policy and Management Act of 1991 (Act) creates DHEC's Office of Solid Waste Reduction and Recycling (Office). The Office, which is non-regulatory, is designed to provide technical assistance, grant funding and education programs to local governments, colleges and universities and schools. The Act sets a recycling goal of 25 percent and a waste reduction goal of 30 percent, both calculated by weight, to be met by FY 1997.

## FISCAL YEAR 1992

- A toll-free number (1-800-768-7348) is established for South Carolinians to call and receive recycling information.
- The S.C. Used Oil Partnership is created and includes the following members: S.C. Department of Transportation, DHEC, Santee Cooper and the S.C. Petroleum Council. The mission of the partnership is to target do-it-yourself oil changers (DIYers) on the importance of proper collection and recycling of oil.

## FISCAL YEAR 1993

- Grant regulations become effective in April that allow the dispersal of funds collected from advanced recycling fees on tires, appliances, lead-acid batteries and used oil. These fees assist local governments and schools with recycling programs.

- More than 170,000 gallons of used oil are collected from DIYers at nearly 250 recycling locations throughout the state.
- About 87,557 tons of materials are collected for recycling according to reports provided by county governments and compiled by DHEC.
- Pilot sessions are underway for a K-12 environmental curriculum.

## FISCAL YEAR 1994

- "Action for a cleaner tomorrow: An Environmental Curriculum Supplement" ("Action") is presented to teachers, schools and groups across the state.
- Environmental education grant program that targets schools begins. The Office provides \$146,000 in grant funding to 137 schools.

## FISCAL YEAR 1995

- The Office awards seven grants to hold household hazardous materials collections.
- The first Recycling Coordinators (RC) Workshop sponsored by the Office is held. More than 75 people attend what will become an annual workshop.
- The Recycle Guys Awards Program is established to honor the top recycling programs, projects and people in South Carolina.
- Work begins to update state contracts to encourage used oil filter recycling.

## FISCAL YEAR 1996

- NASCAR driver Jeff Gordon agrees to be the spokesperson for South Carolina's used oil recycling program.
- Code Green – a weekly segment offering environmental tips for viewers on local NBC affiliate WIS-TV – is created. It airs each Saturday morning during the local news broadcast.
- The Closed Loop Tire Grant begins allowing local governments to apply for funds for the purchase of goods made from recycled tires.

## FISCAL YEAR 1997

- The Recycle Guys Public Awareness Campaign, featuring seven characters of the Office logo, premieres with three 30-second public service announcements that air statewide on television.
- Staff organizes a compost bin distribution program that allows cities and counties to offer plastic bins to their residents to promote waste reduction.
- The Office, serving as the contact for South Carolina, joins the America Recycles Day Campaign, setting aside each November 15 to celebrate the importance of recycling and buying products made from recycled materials.
- The Automobile Dismantler Waste Tire Grant is



implemented to assist counties that handle tires from salvage yards.

#### FISCAL YEAR 1998

- The S.C. Plastics Partnership is formed to target ways to improve overall plastics recycling in South Carolina, including a workshop held with the American Plastics Council.
- The first Energy 2 Learn Teacher Workshop is held in Columbia. Teachers are trained on "Action" and receive additional information on energy conservation. More than 200 teachers attend.
- Gypsum wallboard recycling project begins with Mungo Inc., a Columbia-based homebuilder.
- The Office's Web page premieres.

#### FISCAL YEAR 1999

- "Action" is redesigned and edited for use on an interactive CD-ROM that is funded by the U.S. Postal Service, Greater South Carolina Cluster.
- The Buy Recycled Statewide Awareness Campaign kicks off and includes television and radio public service announcements, contests, workshops and a new display. The overall program is funded by a U.S. EPA grant.
- The Office offers a \$50,000 grant to local governments to set up a center dedicated to the proper management of household hazardous materials.

#### FISCAL YEAR 2000

- DHEC adopts a new formula to calculate the state recycling rate that measures just the municipal solid waste (MSW) stream and not the total waste stream. The goal of the new formula is to provide

consistency in measurement according to U.S. EPA standards.

- The Green Driver Project, a program targeting high school driver education classes begins. It comprises a presentation by Office staff, a lesson from "Action," and a video, also created by the Office. The video "Our World" summarizes the harm that can occur from the improper handling of used oil.
- The CD-ROM of "Action" wins the White House Closing the Circle Award.
- One million gallons of used oil are collected for recycling in a single year for the first time.
- To date, the Recycle Guys Public Awareness Campaign has received extensive recognition, including national Telly awards and local ADDY and MERCURY awards.

#### FISCAL YEAR 2001

- An updated CD-ROM version of "Action" is developed and includes new features such as a tutorial for teachers, a search engine and a special student section with public service announcements and video.
- The Office offers three compost schools for solid waste directors and recycling coordinators.
- The Asphalt Rubber Technology Service (ARTS) is created with the mission to design, test and promote the use of scrap tires in rubberized asphalt and other civil engineering applications. ARTS, funded by an Office grant, is a partnership with Clemson University, the City of Clemson and the Office.
- The Business Recycling Assistance Program (B-RAP), a collaborative partnership

between the Office, DHEC's Center for Waste Minimization and the Recycling Market Development Advisory Council is set up to provide technical assistance to business, industry, trade associations and others on waste reduction, recycling, buying recycled and market development. All of this is provided confidentially and free of charge.

- As required by the Act, for the first time state agencies, colleges and universities report waste reduction, recycling and buying recycled activities to DHEC.
- DHEC Commissioner Douglas E. Bryant, who is retiring, is presented the first Honorary Recycle Guy Award for his support of recycling throughout the state.

#### FISCAL YEAR 2002

- The U.S. EPA recognizes DHEC as WasteWise State Government of the Year, Endorser of the Year and names DHEC a Pilot Advocate State.
- The first Earth Camp is held for 48 rising fifth- and sixth-graders who are selected from hundred of applications. The camp offered daily sessions on recycling, air, water, energy and forestry.
- A new video, "DHEC1: Behind the Oil Change" is completed and integrated into the Green Driver Project. To date, more than 10,600 students have participated in the program.
- To date, more than 7 million tires have been removed from illegal stockpiles around the state using grant funding provided by the Office.

For more information about the Office or the programs listed, visit [www.scdhec.net/recycle](http://www.scdhec.net/recycle) or call 1-800-768-7348.